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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,221	09/25/2006	Takashi Sueyoshi	8007-1116	1846
466 7590 YOUNG & THOMPSON 209 Madison Street Suite 500 Alexandria, VA 22314			EXAMINER LOEWE, ROBERT S	
			ART UNIT 1766	PAPER NUMBER
			NOTIFICATION DATE 10/14/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

### Office Action Summary

**Application No.**

10/594,221

**Applicant(s)**

SUEYOSHI ET AL.

**Examiner**

ROBERT LOEWE

**Art Unit**

1766

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3, 4, 6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/4/10 has been entered.

#### ***Response to Arguments***

Applicant's arguments/remarks, filed on 10/4/10, have been fully considered and are not found to be persuasive. Applicants argue that Filas et al. (US Pat. 5,217,811) does not teach that adjustment of the phenyl group content is influential to heat resistance and handling properties as Applicants have allegedly discovered. However, the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art (in this case, adjusting the phenyl group content so as to adjust the refractive index of the crosslinked silicone elastomers) cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 28, 60 (Bd. Pat. App. & Inter. 1985).

Additionally, new grounds of rejection appear below.

#### ***Claim Objections***

Claim 1 is objected to for the following informalities: "SI-OH group" towards the end of claim 1 should be changed to --Si-OH group--. Also, the limitation "a average molecular weight" at the end of claim 1 should be changed to --an average molecular weight--.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Chevalier et al. (WO 03/80753).

Claim 1: Chevalier et al. teaches the preparation of silicone resins (abstract). Chevalier et al. teaches that the silicone resins may be comprised of both Si-alkenyl and Si-H functionalities and that such resins may be self-cured by the addition of a catalyst (paragraph 0018 and examples 18-25). Example 25 of Chevalier et al. shows a silicone resin having both Si-H and Si-vinyl functionalities as required by component (C) of the instant claims. The weight average molecular weight is 38,400 which falls within the range required by instant claim 1. The phenyl group content is 22 wt%, which falls within the range required by instant claim 1. Chevalier et al. teaches that such silicone resins may be self-cured by adding a platinum catalyst (paragraph 0018). Arrival at the phenyl group content value is as follows:

The  $M^{\text{ViMePh}}$  group, or  $[(\text{Me})(\text{Vi})(\text{Ph})\text{Si-O}]_{1/2}$  group, has a molecular weight of 155 g/mol.

The  $\text{T}^{\text{Ph}}$  group, or  $(\text{Ph-SiO}_{3/2})$  group, has a molecular weight of 128 g/mol.

The  $\text{T}^{\text{H}}$  group, or  $(\text{HSiO}_{3/2})$  group, has a molecular weight of 53 g/mol.

The Q group, or  $\text{SiO}_{4/2}$  group, has a molecular weight of 60 g/mol.

A phenyl group has a molecular weight of 77 g/mol. Therefore, there is 77/155, or about 50 wt% of phenyl group content for the  $M^{\text{ViMePh}}$  group, there is 77/129, or about 60 wt% of phenyl group content for the  $\text{T}^{\text{Ph}}$  group. The  $M^{\text{ViMePh}}$  group accounts for 15 wt% of the resin and the  $\text{T}^{\text{Ph}}$  group accounts for 25 wt% of the resin. Therefore, the phenyl group content of the resin is  $50(0.15) + 60(0.25) = 22.5$  wt%, which falls within the 1-25 wt% requirement of the instant claims.

Chevalier et al. also teaches self-addition cure of a  $M^{\text{ViMe2-T}^{\text{Ph}}\text{T}^{\text{H}}\text{Q}}$  resin (example 30). The resin used in example 30 has a molecular weight of 5,152 and an aryl group content of 15 wt% (using the same calculation as above).

While Chevalier et al. teaches a slightly different method of preparing the silicone resin which reads on component (C) of the instant claims, such method limitations are written using a product-by-process format. For such limitations, patentability is based on the product itself, and not on its method of production. Further, both the instant application and Chevalier et al. employ hydrolysis and condensation reactions of silane monomers using the sol-gel approach. The final

products would be expected to be identical since the same silane monomers taught by Chevalier et al. are also taught in the instant specification.

Claim 3: Chevalier et al. further teaches that a low coefficient of thermal expansion filler may be added to the curable silicone resins, including metal oxides such as silica and alumina (paragraph 0027).

Claim 4: Chevalier et al. teaches heat curing the silicone resins taught therein to afford heat cured silicone rubbers which possess good thermal stability and a low coefficient of thermal expansion (paragraph 0020 and examples).

Claim 6: Chevalier et al. prepares the silicone resins by hydrolyzing and condensing silane monomers, including those which possess Si-vinyl and Si-H groups. Chevalier et al. further teaches that the silicone resins taught therein comprise T and Q units. Such T and Q units are branching units which afford upon condensation caged and cyclic structures as required by instant claim 6.

Claim 8: Because Chevalier et al. renders obvious the preparation of silicone resins which satisfy all of the structural and molecular weight requirements of instant claim 8, it follows that the viscosity of the silicone resin would inherently satisfy that which is claimed in instant claim 8.

Claim 9: Instant claim 9 further limits optional components (A) and (B) from instant claim 1. As such, Chevalier et al. may still be relied upon to teach this limitation despite the fact that Chevalier et al. does not explicitly teach components (A) and (B) of instant claim 1.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. (US 2004/0028917) in view of a Gelest technical bulletin, further in view of Filas et al. (US Pat. 5,217,811).

Ikeno et al. teaches curable organopolysiloxane compositions comprising an alkenyl-substituted polysiloxane, an organohydrogenpolysiloxane and an addition catalyst (abstract). The alkenyl-substituted polysiloxane are taught to include branched and cyclic structures (paragraphs 0026 and 0029). The organohydrogenpolysiloxanes are also taught to include branched, cyclic and three dimensional network type structures (paragraphs 0033-0034). The addition cure catalyst is selected from well-known platinum-based catalysts (paragraph 0037). The viscosities of components (A), (B) [and (D), not a claimed ingredient] are taught to fall in the range of instant claim 8 such that it would have been obvious that the final viscosity of the final formulations would, in some instances, fall within the range of instant claim 8. Ikeno et al. further teaches and exemplifies the addition of silica filler, which is a well-known fine metal oxide powder. Last, Ikeno et al. teaches that the alkenyl-functional polysiloxanes include phenyl groups. Regarding the molecular weights of components (A) and (B) of claim 1, it is inherent that the molecular weight of the alkenyl-substituted polysiloxane would fall within the range of instant claim 7 (paragraph 0028). Further, the viscosity of the organohydrogenpolysiloxane is taught to be preferably from 5 to 500 mPa·s, the middle and upper portions of that range would yield molecular weights in excess of 5,000 as required by instant claim 7 as evidenced by a Gelest technical bulletin (top of page 15).

While Ikeno et al. does not explicitly teach that the curable organopolysiloxane compositions have a phenyl group content as required by instant claim 1, such phenyl group content is obvious to a person having ordinary skill in the art when taken with the teachings of Filas et al. Ikeno et al. and Filas et al. are combinable because they are from the same field of endeavor, namely, silicone encapsulating materials. At the time of the invention, a person having ordinary skill in the art would have found it obvious to employ a phenyl group content of preferably 10 to 20 mol% (which would satisfy Applicants claimed range of 1 to 25 wt%-sec structure at the top of column 4) as taught by Filas et al. (2:45-50) and would have been

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motivated to do so since Filas et al. teaches that this range offers crosslinked silicone copolymers which have an index of refraction useful for device applications, which in the case of both Filas et al. and Ikeno et al., is encapsulating materials for devices.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT LOEWE whose telephone number is (571)270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Loewe/  
Examiner, Art Unit 1766  
6-Oct-10